

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1, 19, and 49 have been amended. Claims 3, 5-6, 9-10, 21, 23-24, 27-28, and 50 were previously withdrawn. Claims 1-13, 15, 17, 19-31, 33, 35, and 49-50 are pending and under consideration.

I. Rejections under 35 U.S.C. § 101

In the Office Action, at page 2, claims 1-2, 4, 7-8, 11-13, 15, 17, 19-20, 22, 25-26, 29-31, 33, 35 and 49 were rejected under 35 USC § 101 as being directed to non-statutory subject matter. More specifically, the Examiner indicates that the method steps do not result in a physical transformation nor do they provide a useful, concrete and tangible result, but instead appear to manipulate data in a computer. Also, the Examiner indicates that the means do not result in a physical transformation nor do they provide a useful, concrete and tangible result, but instead appear to be a CPU, a RAM, a ROM, or a floppy disk to manipulate data in a computer.

Independent claims 1, 19, and 49 have been amended to recite the feature of "forming via holes in the first insulating layer in accordance with the corrected design data," which is a physical transformation of the claimed component-embedded board. Accordingly, withdrawal of these § 101 rejections is respectfully requested.

II. Rejections under 35 U.S.C. § 103

In the Office Action, at pages 2-5, claims 1-2, 4, 7-8, 11-13, 15, 17, 19-20, 22, 25-26, 29-31, 33, 35 and 49 were rejected under 35 USC § 103(a) as being unpatentable over Taff et al. (U.S. Patent No. 6,165,658) in view of Leedy (U.S. Patent No. 5,103,557).

Taff et al. and Leedy, alone or in combination, do not discuss or suggest:

determining whether the first displacement data represents a displacement that exceeds a predetermined maximum value at which the board is rendered defective;

if the represented displacement does not exceed the predetermined maximum value, correcting, based on said first displacement data, design data to be used for processing said board, covering said board with said first insulating layer to form a wiring pattern connected to said first electrical component, and forming via holes in the first insulating layer in accordance with the corrected design data; and

if the represented displacement does exceed the predetermined maximum value, performing no corrections to the design data,

as recited in amended claim 1. In other words, the invention of claim 1 provides for determining whether the displacement value between a design position and an actual position exceeds a predetermined maximum value at which the board is rendered defective. Thereafter, the invention of claim 1 provides for performing corrections on design data to be used for processing the board only if the displacement value does not exceed the predetermined maximum value. Subsequent to performing corrections on the design data, claim 1 provides for covering the board with the first insulating layer to form a wiring pattern connected to the first electrical component and for forming via holes in the first insulating layer in accordance with the corrected design data. As such, the covering and forming are also performed only when the displacement value does not exceed the predetermined maximum value.

In the alternative, claim 1 provides that no corrections are performed to the design data if the displacement value does exceed the predetermined maximum value. Thereafter, no covering and forming are performed on the board. In this manner, the invention of claim 1 serves to further increase the fabrication yield because seriously defective parts that cannot be remedied by the correction process can be completely eliminated and not further processed, thus saving unnecessary processing time.

The Examiner indicates that Taff et al. discloses the above discussed features of claim 1 at col. 7, lines 66-67, col. 8, lines 1-5, and col. 8, lines 5-45. However, this is submitted to be incorrect. Taff et al. discloses determining the difference between the locations of conductive site 12 and conductive site 24, which are located on successive layers of a multi-layer PCB. However, Taff et al. provides for correcting the determined difference regardless of the amount or degree of the difference. Taff et al. does not provide for determining whether or not the difference exceeds a predetermined maximum value at which the PCB is rendered defective and performing no corrections if the predetermined maximum value is exceeded.

Since Taff et al. and Leedy, either alone or in combination, do not disclose these features of claim 1, claim 1 patentably distinguishes over Taff et al. and Leedy. Accordingly, withdrawal of this § 103(a) rejection is respectfully requested.

Claims 2, 4, 7-8, 11-13, 15, and 17 depend either directly or indirectly from claim 1, and include all the features of claim 1, plus additional features that are not discussed or suggested by the references relied upon. Therefore, claims 2, 4, 7-8, 11-13, 15, and 17 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of these § 103(a) rejections is respectfully requested.

Taff et al. and Leedy, alone or in combination, do not discuss or suggest:

determining whether the first displacement data represents a displacement that exceeds a predetermined maximum value at which the board is rendered defective;

if the represented displacement does not exceed the predetermined maximum value, correcting, based on said first displacement data, design data to be used for processing said board, covering said board with said first insulating layer to form a wiring pattern connected to said first electrical component, and forming via holes in the first insulating layer in accordance with the corrected design data; and

if the represented displacement does exceed the predetermined maximum value, performing no corrections to the design data,

as recited in amended claim 19, so that claim 19 patentably distinguishes over Taff et al. and Leedy. Accordingly, withdrawal of this § 103(a) rejection is respectfully requested.

Claims 20, 22, 25-26, 29-31, 33, and 35 depend either directly or indirectly from claim 19, and include all the features of claim 19, plus additional features that are not discussed or suggested by the references relied upon. Therefore, claims 20, 22, 25-26, 29-31, 33, and 35 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of these § 103(a) rejections is respectfully requested.

Taff et al. and Leedy, alone or in combination, do not discuss or suggest:

means for determining whether the first displacement data represents a displacement that exceeds a predetermined maximum value at which the board is rendered defective; and

means for correcting, based on said first displacement data, design data to be used for processing said board, covering said board with said first insulating layer to form a wiring pattern connected to said first electrical component, and forming via holes in the first insulating layer in accordance with the corrected design data,

as recited in amended claim 49, so that claim 49 patentably distinguishes over Taff et al. and Leedy. Accordingly, withdrawal of this § 103(a) rejection is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

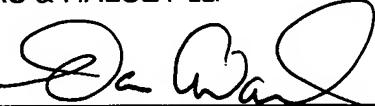
Serial No. 10/612,222

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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